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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,732	07/20/2001	Jin-Soo Lee	LGE-012	8698
34610	7590	07/01/2004	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			HUNG, YUBIN	
			ART UNIT	PAPER NUMBER
			2625	8
DATE MAILED: 07/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/908,732

Applicant(s)

LEE ET AL.

Examiner

Yubin Hung

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/20/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - Abstract, line 4: "partial" should be changed to "thresholds" to be consistent with P. 2, paragraph [4], line 4 of the specification
 - Abstract, line 7: "bodies" should be changed to "values" to be consistent with P. 2, paragraph [4], line 7 of the specification
 - P. 6, paragraph [19], line 1: Explain how it is "interoperable"
 - Claim 10, last line: change "preceding value" to "preceding value's"
 - Claim 20, last line: change "preceding value" to "preceding value's"

Appropriate correction is required.

Claim Objections

2. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

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(Note: For examination purpose, the claim is interpreted to read "...wherein the histogram is a *color* histogram.")

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Bitran et al. (GB 2,329,543A).

5. Regarding claim 1, and similarly claim 11, Bitran et al. discloses

- receiving a first sequence of values and a second sequence of values, [Fig. 3; P. 1, lines 27-30; P. 6, lines 8-13. Note that one sequence comes out of the quantization block "Q" and the other from the block labeled "Compressed Previous Frame"; the values are the quantized DCT coefficients of the respective blocks (i.e., macroblocks)]
- each value of the first sequence and each value of the second sequence is associated with a category and a magnitude [Fig. 3; P. 1, lines 27-30; P. 6, lines 8-13. Note that for each value (i.e., quantized DCT coefficient), its associated category is its location (e.g., coordinates) in its macroblock and the magnitude its corresponding quantization coefficient]
- in the order of values of both the first sequence of values and the second sequence of values, no adjacent values have the same category [This follows from the above analysis]

6. Regarding claim 2, and similarly claim 12, Bitran et al. further discloses

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- comparing a value of the first sequence with a value of the second sequence if the value of the first sequence and the value of the second sequence are associated with the same category and same magnitude [Fig. 3, block labeled "COMPARE" ; P. 1, lines 27-30; P. 6, lines 8-13. Note that since comparison are made to quantized DCT coefficients at the same location of their respective blocks, they have the same "category" and "magnitude" (the latter from the fact of their having been quantized by the same quantizer, therefore they have the same quantization coefficient, i.e., magnitude)]
7. Regarding claim 3, and similarly claim 13, Bitran et al. further discloses
- the magnitude is a threshold
[Fig. 3, block labeled "Q." Note that each quantization coefficient is considered a "threshold"]
8. Regarding claim 4, and similarly claim 14, Bitran et al. further discloses
- the category is a bin
[Fig. 3; P. 1, lines 27-30; P. 6, lines 8-13. Note that each block is considered a histogram with each location (i.e., coordinates) corresponding to a bin (and the corresponding quantization coefficient its bin count, i.e., magnitude)]
9. Regarding claim 5, and similarly claim 15, Bitran et al. discloses
- each value of a sequence of values is a bit
[Fig. 3; P. 6, lines 8-13. Note that in a computer application each quantized DCT coefficient ultimate is represented as a bit pattern]
10. Regarding claim 6, and similarly claim 16, Bitran et al. further discloses
- at least one of the first sequence of values and the second sequence of value is data from a histogram
[Per the analysis of claim 4]
11. Regarding claim 7, and similarly claim 17, Bitran et al. further discloses
- the histogram is a color histogram
[Per the analysis of claim 6; P. 1, lines 29-30. Note that it is well known in the art that MPEG-I and MPEG-II are color video compression standards therefore the input image frames that are DCT transformed and quantized are typically in color]

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 8-10 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bitran et al. (GB 2,329,543A), as applied to claims 1-7, 11-17 above, and further in view of Cheung et al. ("Progressive Image Transmission by Linear Quadtree Coding and Wavelet Transformation," *13th Int'l Conf. On Digital Signal Processing*, V. 2, 1997, pp. 475-478).

14. Regarding claim 8, and similarly claim 18, Bitran et al. discloses everything except the following, which Cheung et al. further teaches

- the order of values of both the first sequence of values and the second sequence of values, values associated with the same magnitude are grouped together in groups [Fig. 2.2; P. 475, Sections 2.2-2.3; P. 476, Sect. 3.3, 3rd paragraph, lines 5-7. Note that the coefficients correspond to the magnitudes and the levels the nodes reside correspond to the values. Clearly sorting in this manner will group values of the same associated magnitude together]

Bitran et al. and Cheung et al. are combinable because they are from the same field of endeavor of image compression.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Bitran et al. with the teaching of Cheung et al. by grouping values with the same associated coefficient (i.e., magnitude). The motivation would have been to order information by importance, as stated in Cheung et al. [P. 476, Sect. 3.3, 3rd paragraph, lines 5-7].

Therefore, it would have been obvious to combine Cheung et al. with Bitran et al. to obtain the invention specified in claim 8.

15. Regarding claim 9, and similarly claim 19, Cheung et al. further teaches

- the order of the groups is according to resolution of information of each value of each group
[Per the analysis of claim 8; P. 476, Sect. 3.3, 3rd paragraph, lines 5-7. Note that the value of a coefficient reflects its information content, i.e., the "resolution" of information]

16. Regarding claim 10, and similarly claim 20, Cheung et al. further teaches

- the order of values of both the first sequence of values and the second sequence of values, each value is associated with a resolution equal to or higher than the preceding value's
[Fig. 2.2; P. 475, Sections 2.2-2.3; P. 476, Sect. 3.3, 3rd paragraph, lines 5-7. Note that the value of a coefficient reflects its information content, i.e., the "resolution" of information. Note further that the well-known technique of sorting data (coefficient in this case) into an increasing order will result in each value being associated with a resolution equal to or higher than the preceding value's]

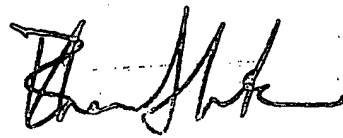
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
June 23, 2004



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